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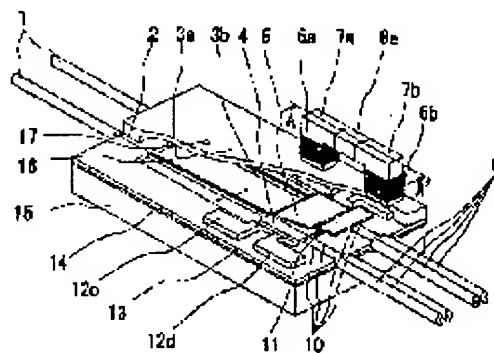
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(54) OPTICAL SWITCH AND ITS MANUFACTURE, AND OPTICAL COMMUNICATION EQUIPMENT USING OPTICAL SWITCH

(57)Abstract:

PROBLEM TO BE SOLVED: To obtain a low-cost optical waveguide type switch with small insertion loss by forming a separation layer on a quartz glass substrate and forming cantilevers, an optical waveguide on them, optical waveguides, and a switch driving means which deforms the cantilevers on the separation layer.

SOLUTION: On the quartz glass substrate 15, a quartz glass waveguide layer 13 and a movable-side optical waveguide 2 are formed on the cantilevers 3a and 3b across the separation layer 14. A coupling member 4 is formed on the free-end side of the cantilevers 3a and 3b, internal yokes 12a to 12d of soft magnetic bodies are formed opposite the coupling member 4 on the quartz glass waveguide layer 13 having a soft magnetic body film 5 is formed on its top surface, and on them, a driving part consisting of coils 6a and 6b, external yokes 7a and 7b of soft magnetic bodies, and a permanent magnet 8 is formed. Further, fixed-side optical waveguides 10 are formed on the free-end side of the movable-side optical waveguide 2 so that they face the free-end side according to the movement quantity of the waveguide.



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